

TERRA AUSTRALIS

TEACHER'S GUIDE

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Important notes

- The black-line masters, captain's commission and the student's guide may be copied for student use only within the educational institution for which they have been purchased; in these circumstances no payment for copying is required by the copyright holders.
- 2. Please make a backup copy of this disk and put the original in a safe place. You are permitted to make one backup copy for use in your institution. Any attempt to distribute copies of this disk outside your institution will be viewed as a serious breach of copyright and will result in legal proceedings being initiated against the individual(s) involved and their employer.

THE PACKAGE

The package consists of a Teacher's Guide, a Student's Guide, black-line masters, and one disk (BBC, and Apple 9 cm) or two disks (Apple 13 cm).

HARDWARE REQUIREMENTS

Apple version — Apple IIe, IIc or IIGS
Monochrome or colour monitor
One or two disk drives
Imagewriter or Epson-compatible printer
BBC version — BBC B, Compact or Master 128
Monochrome or colour monitor
One disk drive (or network)
Epson-compatible printer

OVERVIEW

Terra Australis allows students to simulate the trading voyages between Europe and the East Indies in the seventeenth century. Students should not only experience some of the difficulties faced by the early captains, but they should come to understand why European settlements grew where they did.

A world map has been designed into the program, and this enables students to see the course they have chosen and locate the places visited.

The software includes these features:

- · It can be used independently by many groups of students.
- Members of a group can role-play and share the responsibilities for the voyage.
- The on-screen map of the voyage can be checked throughout the program.
- · Full details of the voyage can be printed at the end.
- After the voyage the group presents a report which includes an evaluation of any newly-discovered lands.

BACKGROUND

Although Dutch explorers reported the existence of a new coastline south of the East Indies in 1606, there was no European Settlement on the Australian continent until 1788, when Governor Phillip and the First Fleet landed at Port Jackson.

To the early navigators the northern and western coasts appeared barren and devoid of useful resources. The people of this harsh landscape lived in a tribal society and had, it seemed, no worthwhile products to trade. While maps of the coastline were drawn, European visitors agreed that the region was poor and too far away from settled ports, and that the coastline was a barrier to further exploration. Some of the early visitors to the Australian coast were the Dutch navigators — Willem Jansz in 1606, Dirck Hartog in 1616, Jan Carstensz in 1623 and Abel Tasman in 1642 and 1644. The Englishman William Dampier came in 1688 and 1699. A century later the French and British were active along the entire Australian coastline, beginning with James Cook's exploration of the east coast in 1770 and continuing with voyages like the extensive French expedition led by Nicolas Baudin in 1800.

All exploration used the best technology of the time, cost a great deal and involved huge risks. Short-term financial returns were imperative to justify the Dutch expeditions in the seventeenth century, when ships from the United (Dutch) East India Company were the sea power in the region. The company was known as the V.O.C. (Vereenigde Oostindische Compagnie).

Most of the Dutch ships that visited the Australian coast were merchant vessels, usually bound for Batavia in the East Indies. Their skippers were unimpressed with the lack of trading opportunities they found and the danger of the coastline. All their visits werre unproductive, time-delaying exercises, and some were catastrophic, such as that of the *Batavia* in 1629.

Terra Australis allows students to simulate the voyages of the Dutch traders. The students aim is to take their ship to Batavia in the minimum time, making the maximum profit. If uncharted lands are discovered during the course of the voyage, the captains should record any navigational hazards, plot the coastline and report on any trading possibilities.

There is no "right" or "wrong" result, but after examining the records of a number of voyages a class should have enough background to debate issues.

- · Why was European trade with Asia important?
- Why did early traders risk travelling across open seas east. from the Cape of Good Hope rather than take the apparently safer route up the east African coast and via India?

 Why didn't early European contacts with the Australian coastline lead to settlement?

Why did the British eventually settle in Australia?

 Why was Port Jackson chosen for the first European settlement in Australia?

GETTING STARTED

Apple

1. Put the start up disk in drive 1 and switch on the computer.

2. When the red light on the disk drive is glowing shut the drive door

3. The title screen will appear.

RRC

Note: If you are using Terra Australis on a network, see page 14 for details of how to install the package.

1. Switch on the computer. If using a stand-alone machine, put the disk in drive 0 and shut the drive door.

2. Hold down SHIFT, tape the BREAK key and then release the

SHIFT key.

3. The title screen will appear.

THE SIMULATION

As with any simulation, Terra Australis cannot be perfectly authentic in modelling an ocean voyage or the political and economic circumstances in which it took place. These assumptions have been made:

1. The ship is a United (Dutch) East India Company vessel. During the first half of the seventeenth century, the Company had a virtual monopoly of the shipping route around the Cape of Good Hope and of the ports in the Indonesian archipelago. Although merchants from other nations attempted to break into the lucrative spice trade, none were as successful as the

Dutch, However, for convenience, English nautical terms are

2 Some islands and features that annear in the simulation were not actually discovered until as late as the eighteenth century particularly those in the Southern Ocean. The following list gives the descriptions applying to these places so that students can identify them using an atlas

This is a rocky island surrounded by Roundt Island

steen ice cliffs Penguins, seals and seabirds are the Kerquelen Islands

only signs of life. Tasmania

This rugged heavily-timbered coast is

rugged and isolated Small settlements lie along the coast Port Flizabeth

behind a deep bay.

Prince Edward Island This barren, windswept island rises

steeply from the sea. You are at an isolated, rocky island Amsterdam Island

which seems harren

You are on the west coast of an New Zealand unknown land with high snow-capped

mountains.

You are in a shallow, circular bay in Botanu Bau uncharted land on an eastern coast

The Pilhara coast You reach an uncharted coastline The

land is dry, barren and very hot. Crozet Island There are several small islands here.

3. The currency used is the Dutch guilder. The symbol used on the computer screen (\$) is in fact similar to that used by the Dutch in the seventeenth century. Although we have attempted to make commodity prices as accurate as possible, the values appearing in the simulation are varied randomly within set ranges and may not always be representative of the values prevailing in the setting of the simulation.

Organisation

Although it is possible for individuals to use Terra Australis, students seem to benefit more if they decide upon strategies in small groups. Groups of three seem to be ideal, but Terra Australis can be used by groups as large as a whole class. In order to give all the members of a group the opportunity to participate actively, some shipboard responsibilities can be allocated to each person:

Role Area of responsibility

Cantain Coordination of crew, management of voyage Rosun Rigging and sails, supervision of repairs

Navigator Choosing the most suitable course

Merchant Trading at ports

Stoward Provisioning or obtaining supplies

If a single computer is being shared between a number of groups, students not using the computer can be working on related tasks. Suggestions for these are listed in the "Related activities" section

RELATED ACTIVITIES

Note: An excellent teacher reference that presents detailed activities on the themes of trade, maritime exploration and Australian maritime history is Southland: The Maritime Exploration of Australia, Teacher's Guide, published by the Ministry of Education, Western Australia 1987

The following activities only serve as broad suggestions for student work. Teachers may wish to develop any of these content objectives to suit their own classroom needs and requirements. The ideas presented here may form the basis of studies in crosscurricula activities in

history. geography. social studies science reading and creative writing. song, poem and play. art and craft. music, and health education

Themes

1. Old world theories

- 1.1 What were some early ideas about the shape of the earth and its position in space?
- 1.2 Why were ancient seafarers restricted in their travels?

How far did medieval sailors venture?

- 1.3 Why were adventurers like Marco Polo and Ibn Battuta important to trade and discovery? Trace their journeys and stories
- 1.4 What trade goods were sought? Why were these valuable? Where did trade routes come from and go to?
- 1.5 What fears were held by ancient seafarers?
- 1.6 What advances occurred in seafaring technology?
- Consider sails, ship design, steering and navigation techniques
- 1.7 What was the common view of the world in 1450?

2 Ports of call

- 2.1 Why did ships need to stop over during voyages?
- 2.2 What were the problems aboard ship during long vovages? How were some of these problems solved?
- 2.3 Why were European settlements established at Cane Town, Batavia and Port Jackson?
- 2.4 Why did ships sometimes call at uninhabited islands?
- 2.5 What advantages and disadvantages were there for ships calling at inhabited spots?
- 2.6 What effects did European "discovery" have on the original inhabitants of these places?

3. Portuguese exploration

- 3.1 Why did the Portuguese attempt to reach Asia by sea?
- 3.2 What role did Prince Henry the Navigator play in Portugal's growth as a sea power?
- 3.3 What were the travels and achievements undertaken by Bartholmew Dias?
- 3.4 What were the travels and achievements of Vasco Da Gama?
- 3.5 Which powerful traders were restricted by the Portuguese in the Indian Ocean? Why was this done?
- 3.6 Why did the Portuguese want to control trade in the East
- Indies? 3.7 What evidence suggests that the Portuguese may have
- been the first Europeans to reach Australia? Do you think that the proof is conclusive?

4. Spanish exploration

4.1 Why did the Spanish want to reach Asia by sailing west from Europe?

4.2 What was Christopher Columbus' role in this? Where did he sail and what did he achieve?

4.3 Where did Ferdinand Magellan sail? Why was it an

important vovage?

4.4 Why did Spain become a sea power in the Pacific Ocean?
4.5 How did Luis de Torres come to discover the strait that bears his name?

5. Dutch exploration

- 5.1 Why was the V.O.C. formed? On what routes did its ships sail?
- 5.2 What dangers had to be faced during such voyages?

5.3 Why was a headquarters established at Batavia?

- 5.4 Why did Brouwer's new route help merchants of the
- V.O.C.? What problems were associated with the new route?
 5.5 How did the following navigators make notable voyages?

Willem Jansz (1606) Direk Hartog (1616)

Jan Carstensz (1623)

Abel Tasman (1642 and 1644) Samuel Volkersen (1658)

Willem de Vlamingh (1696)

5.6 What were the circumstances involving the following disasters?

Batavia (1629)

Vergulde Draeck (1656)

Zuytdorp (1712) Zeewuck (1696)

5.7 Why was trade with the East Indies so important? How far did Dutch trade extend into Asia? Why didn't it expand into Australia?

5.8 How significant was Dutch exploration on the Australian coastline?

6. French exploration

6.1 Why were the French interested in the Pacific Ocean region?

6.2 What were the motives for and the results of the voyages of the following men?

Louis de Bougainville

de Saint Allouarn de la Perouse

d'Entrecasteaux

Baudin

de Freycinet

6.3 Identify some French place names on the Australian coastline and find their origins.

6.4 Why did the French lose interest in exploration in

7 British exploration

7.1 Why did the English East India Company form? What was the *Trial*'s mission before it was wrecked?

was the *Trial's* mission before it was wrecked?

7.2 What was William Dampier's background? How did his

1.2 What was William Dampier's bargistant. Toward instravels bring him to Australia in 1688 and 1699?
7.3 What was the main purpose of James Cook's first voyage

7.3 What was the main purpose of James Cook's first voyag to the southern hemisphere?

7.4 What were the achievements of the following people?

William Bligh

George Bass James Grant

John Murray

Matthew Flinders

Phillip Parker King

7.5 What contribution did British navigators make to the maritime exploration of Australia?

Activities

1. Research

Terra Australis provides many opportunities to develop students' research skills. Topics for investigation will vary according to the resources available to the school, but may include some of the following:

1.1 The technology of exploration. What materials were available for building ships? What limits did the mariners' understanding of food and medical technology place upon their voyages? How did they navigate? Why did their maps look

different to those in current use?

1.2 The reasons for exploration. Who financed the voyages? Who reaped the benefits (if any)? Did new discoveries enhance the power of the countries that sent the explorers? How important were spies? Were there religious reasons for exploration?

1.3 The results of exploration. What effects did discoveries have on average people in an explorer's homeland? What effects did European "discovery" have on the indigenous people

of these "new" places?

1.4 How did European technology and political influence compare with that of Chinese explorers of the early 1400s such as Cheng Ho? Were there any Europeans whose explorations could compare with the 120 000 km journey of Moroccan Ibn Battuta between 1325 and 1353?

2 Art and craft

2.1 Make a model of an East Indiaman, including the masts. sails and major items of rigging

2.2 Prepare an illuminated chart of the vovage in the style of the seventeenth century.

2.3 Design and build a timing device (sandglass, pendulum,

etc.) that could be used to help measure a ship's speed.

2.4 Make a model boat for use in a (very small) tall ships' race. (See the maths ideas that follow.)

3 Music

3.1 Learn some of the sea shanties that were sung on sailing ships. Relate the different rhythms to the type of work they accompanied.

3.2 Try to find recordings of indigenous music from some of the ports visited during the voyage. Compare this music with the type of music the seamen would have been used to hearing in their native countries at this time

4. Writing

4.1 Keep a diary of the voyage, first deciding whether you are writing from the point of view of an officer or a seaman. (Remember that many seamen were illiterate.)

4.2 Expand rough notes about the voyage in your log into a

book suitable for publication upon return to your native country. Feel free to sensationalise your adventures and exploits

5 Science

5.1 There are many aspects of navigation that can be covered in science lessons, especially the movement of the Earth relative to the Sun and stars

5.2 Obtain as many spices as you can. Using your senses of smell and taste, try to identify them blindfolded

5.3 Cook plain food (potatoes and mince) using different spices as flavoring. Conduct a survey to find out which flavour is likely to be the most popular for a new fast food product.

6 Mathe

6.1 Make a quadrant. Use it to measure the height of trees (after investigating the properties of a 45° right-angled triangle)

6.2 Measure the speed of moving objects using arbitrary units of length, and the instruments and models made in craft lessons (e.g., a small tall ships race in a local creek)

6.3 Keep a trading account during the voyage to see where you made the most profit (or loss). Find which was the greatest cost in running the ship - wages, food or repairs.

The maritime explorers database

Included on this disk is a simple, but comprehensive, database of maritime explorers who made contributions to the exploration and mapping of the Australian coastline before the middle of the nineteenth century.

To use the database, start the program in the usual way, When

the title screen appears, press D.

The first entry will appear on the screen. Use the - and cursor kevs to move through the entries one by one. You can also move directly to the last entry using the down arrow key, or back to the first entry using the up arrow key. The entries are in chronological order.

The following keys provide further facilities:

This will print a copy of the information on the screen on

any type of printer.

Use this key to search for any words or dates that may be in the database. It doesn't matter whether you use upper or lower case letters but correct spelling is essential If you aren't sure how to spell an explorer's name, you need only enter part of the word. For example, searching for "entre" or "cast" will find d'Entrecasteaux

Quit the database and return to the title screen.

There are many applications of the database in research work One of the most valuable applications is in making a time line. Ask each group to construct a time line of one nation's exploration (making sure they use the same scale) and pin the time lines one above the other on a notice board to show the different phases of exploration undertaken by each nation.

Make sure you use the database as a resource, not an end in itself. It is all too easy for some children (and teachers) to end up studying databases instead of putting the information to use.

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TECHNICAL NOTES

Apple

As there is always a possibility of difficulties with the printer, it is advisable to save the vovage before starting to print. Either an Imagewriter or Epson-compatible printer may be used. Although the software is initially set up to expect an Epson printer connected to a card in slot #1, it may be changed using the teacher's utility program (see page 16)

BBC

Printers

Terra Australis uses a printer to produce a map of the voyage. and to print the final report to the V.O.C. after reaching Batavia. Although it can be produced on any type of printer, the finished product looks better if you're using one that is Epson-compatible.

The software initially assumes an Epson printer is to be used. If this does not produce a satisfactory report, use the teacher's utility program to tell the software not to use Epson control codes in future.

To print a world map you'll need a printer that understands Epson graphics codes. If the result isn't satisfactory, you may install your own graphics dump routine.

The printer dump software supplied with this package does not alter the computer's printer setup (i.e. *FX5, *FX6 and *FX8 settings), so that whatever configuration was set before running the program is preserved.

Installing your own printer graphics dump routine

The code should load into &2ADO and must not exceed 256 bytes in length. The file is assumed to be named EPDUMP1, but this can be altered at line 200 of the MAP program

If you have reservations about installing your own printer dump routine at this address, you could instead try one of the following all-purpose printer packages:

Snatch (4Mation Educational Resources) Colour Dump ROM (Beesoft) Screenprint (ESM)

Additional note for network users.

Remember, it is up to you to select local or network printing before you start this software. The software (including the teacher option to alter the printer details) does not alter this setting.

If a local printer is being used, this should be selected (*FX5,1) before the software is started. If a network printer is being used, this should be selected (*FX5,4) before the software is started.

As there are always liable to be delays or problems with a network printer, voyages should always be saved before printing is attempted – especially when printing the map.

If you have problems with the software on a network, try selecting a local printer (*FX5,1) or no printer (*FX5,0), and see if this helps.

Network installation

To install $Terra\ Australis$ on a network, follow the steps listed below.

Level 3 (hard disk) networks

- Log on as a privileged user. Create a directory such as \$.SOFTOWN.TERRA.
- Using COPYFILES or a similar utility, transfer all the files from the disk into this directory.
- Give all files *ACCESS LR/LR except for FILE, which must have WR/WR access.
- 4. Now enter
 - *NEWUSER SOFTOWN.TERRA
 - *I AM SOFTOWN.TERRA
 - *OPT 4,3
- The software is now started either directly by typing *I AM SOFTOWN.TERRA, or from a menu program by

100 IF <TERRA is selected > THEN OSCLI("I AM SOFTOWN.TERRA");END

Note that the END is necessary. Users with BASIC 1 in any of the machines on the network will (as usual) need to write a routine to perform the same function as OSCLI or else use

Level 2 (floppy disk) networks

Typically the files will be transferred to a directory called \$.TERRA and a user TERRA will be created (with *OPT 4,3 startup option), using (as a privileged user)

•CDIR \$.TERRA

Now use COPYFILES or a similar utility to move the files, then enter

- *NEWUSER TERRA
- *I AM TERRA
- *OPT 4,3

The software can then be started either directly by typing *I AM TERRA or, from a menu program, by

100 IF <TERRA is selected > THEN OSCLI("I AM TERRA"):END

If there are BASIC 1 machines on the network, the OSCLI command will need to be replaced by an equivalent function, or else use

The Teacher's Utility program

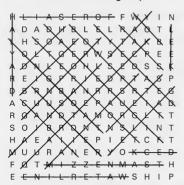
This is provided so that the teacher can see which games are in use and alter printer settings. It is not advisable for students to have access to this part of the package.

To use the utility program, start the program in the normal way, but instead of pressing the space bar to start, press T.

A menu will appear from which you can choose the appropriate

ANSWERS TO BLACKLINE MASTERS

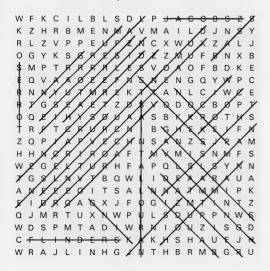
Parts of a sailing ship



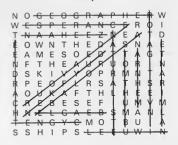
The navigators

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Maritime explorers of Australia



Ships



Database activities (1)

Match the navigators with their ships:

Jansz	 Duyfken	
Hartog	Eendracht	
Carstensz	 Pera and Arnhem	
Nuyts	Gulden Zeepaard	
De Wit	Vyanen	
Tasman	 Heemskerk and Zeehaan	
Cook	 Endeavour	
Flinders	 Investigator	
Grant	Lady Nelson	
Saint Allouran	Gros Ventre	

True or false?

- F The first European ship to be wrecked off the Australian coast was the *Batavia*
- T The first authenticated European sighting of the Australian coast was in 1606, by Jansz.
- T The Netherlands was the most active European nation in exploring the Australian coast during the seventeenth century.
- F The European discoverer of Tasmania was Marion Dufresne.
- F Louis de Bougainville discovered and sketched the east coast in 1768.
- T The first British navigator to sail along the south coast was George Vancouver.
- T Nicolas Baudin led a French expedition to the Australian coast between 1801 and 1804.
- F Dirck Hartog named Shark Bay.
- T Saint Allouran claimed the west coast for France in 1772.
- T Jan Steyns was the skipper of the Zeewiik.
- F James Grant discovered Bass Strait
- F John Oxley explored the Swan River area.
- T The first European visitor to land on the west coast was Dirck Hartog.
- T Jan Carstensz led an expedition to the north coast in 1623.
- F James Cook sailed along the south coast in 1770.